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Hazardous Waste Technical Assistance Survey MacDill AFB FL

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April 1990

Final Report

AF Occupational and Environmental Health Laboratory (AFSC)
Human Systems Division
Brooks Air Force Base, Texas 78235-5501

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At the request of 56th Medical Group/SG, the AFOEHL conducted a hazardous waste technical assistance survey at MacDill AFB (MAFB) from 6 to 17 February 1989. The scope of this survey was to evaluate the hazardous waste management practices, hazardous waste streams and suggest improvements on waste minimization. The survey team performed a shop-by-shop evaluation of chemical waste management practices as well as met with hazardous waste managers and engineers to discuss the hazardous waste program. The results of our survey showed that MAFB needs to formalize the hazardous waste management program. Recommendations include: (1) The base needs to develop a waste analysis plan. (2) The 56 EMS Corrosion Control should put the distillation unit into operation as soon as possible to minimize hazardous waste disposal costs. (3) Waste transfer storage area should be regulated to have specific dates, time and place for personnel to deposit wastes. (4) The undocumented waste storage area has unlabeled drums. The contents are not known on most of the drums. Analyses should be done to properly dispose of the wastes. (5) Fill to capacity the 55-gallon drum located in the paint booth at vehicle maintenance, building 500, and use as a satellite site instead of removing the drum at 75-80% capacity.

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I. INTRODUCTION

The 56th Medical Group (TAC)/SGPB together with the Environmental Coordinator (56 CSG/DEV) requested the AF Occupational and Environmental Health Laboratory, Environmental Quality Branch, AFOEHL/EQE, perform a Hazardous Waste Technical Assistance survey at MacDill AFB and Avon Park Bombing Range (APBR), Florida (Appendix A). The scope of the survey was to evaluate the Hazardous Waste Management practices, hazardous waste streams and suggest improvements on waste minimization for MacDill AFB and APBR.

Maj Elliot K. Ng, Lt Shelia P. Scott, and Lt Nancy S. Hedgecock conducted the survey on 6-17 February 1989.

II. BACKGROUND

A. Base Description

MacDill Air Force Base (TAC) is located eight miles south-southeast of Tampa on the southernmost tip of the interbay peninsula surrounded on three sides by Hillsborough Bay and Tampa Bay. The base is home to the 56th Tactical Fighter Wing. Their primary mission is to train F-16 pilots and weapon systems operator combat crews.

B. Hazardous Waste Program

The overall Hazardous Waste Program was generally in compliance with the Resource Conservation and Recovery Act (RCRA).

The program effectively integrates the efforts of the environmental coordinator, the generator, supply and Defense Reutilization Marketing Office (DRMO) and hazardous waste contractors.

The Environmental Coordinator, Dave Stokes, 56 CSG/DEV, is actively involved with the Hazardous Waste Program for the base. His responsibilities include annual training for the separate shops, monthly inspections at accumulation shops, assessing funds for waste disposal, delivering computer printouts to finance, and maintaining records.

The generator's responsibility begins with the completion of AF Form 2005 which includes the issue chemical stock number, EPA Identification Number and the amount of waste. The generator takes the form to demand processing at Base Supply. Supply enters the information into a computer data base, taking approximately one workday and creates an AF Form 1348-1.

At this point, the Environmental Coordinator certifies if funds are available for waste removal. DRMO puts the verification number on the form and has the waste picked up in approximately three weeks.

One week prior to contract pickup, the contractor samples the wastes. The contractor takes random samples of selected components not recently seen on the manifest. The contractor picks up and transports the waste to one of 15 Temporary Storage Disposal Facilities (TSDF). A new disposal facility is being built at DRMO.

Table 1 summarizes the specific steps of The Hazardous Waste Program.

Table 1. Hazardous Waste Program

1. Shop manager completes AF Form 2005 (see Figure 1) whenever a shop produces a full barrel of waste.

2. Shop personnel take AF Forms 2005 to Base Supply.

3. Supply personnel input AF Form 2005 into a data base and print out AF Form 1348-1 (Figure 2).

4. Supply sends AF Form 1348-1 to DEV, Environmental Coordinator, for funding of the disposal of wastes.

5. DEV certifies that funds are available and takes the form to Finance.

6. Finance sends the AF Form 1348-1 to the generator.

7. DRMO inspects waste at the shop. The waste stays with the generator until a sufficient volume is generated for pick up.

8. DRMO reviews paperwork and sends to the contractor's headquarters (Memphis, Tennessee).

9. The contractor's headquarters coordinates waste pick up with DRMO.

10. DRMO calls transportation to inform them to pick up wastes from different shops and bring to DRMO.

11. Transportation coordinates and makes waste pickup.

12. DRMO approves pick up and provides an AF Form 1348-1 to transportation.

13. Shops code wastes based on final TSDF.

14. When the contractor picks up collected wastes at DRMO, the contractor signs the manifest and accepts responsibility for the wastes.

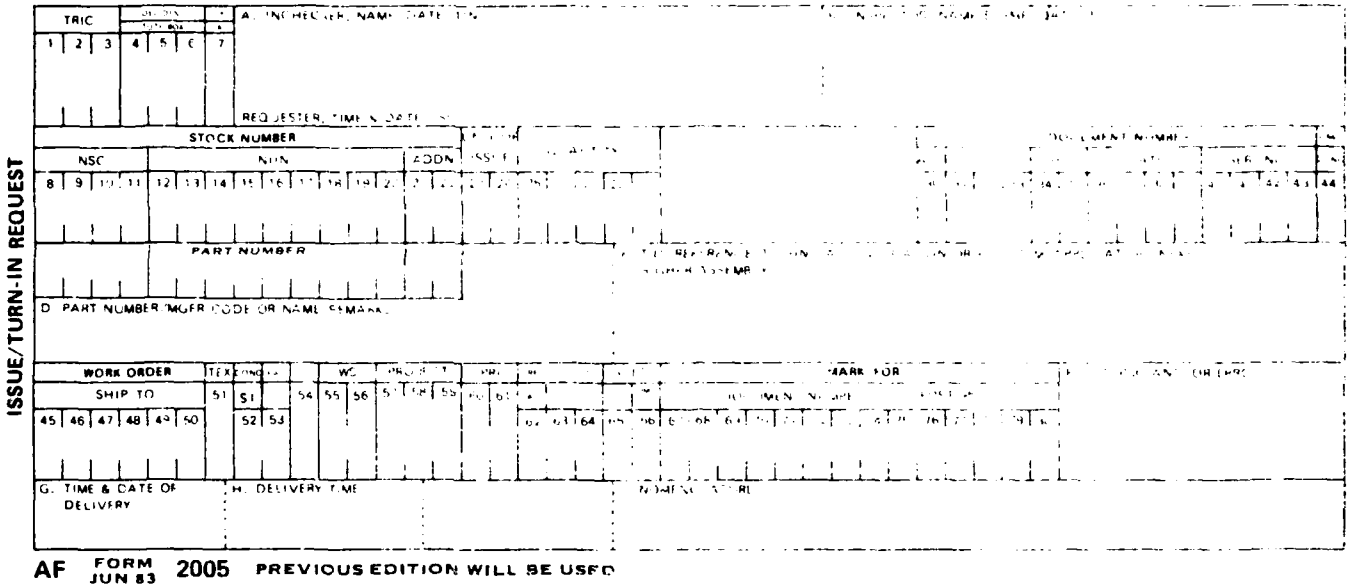

Figure 1: AF Form 2005

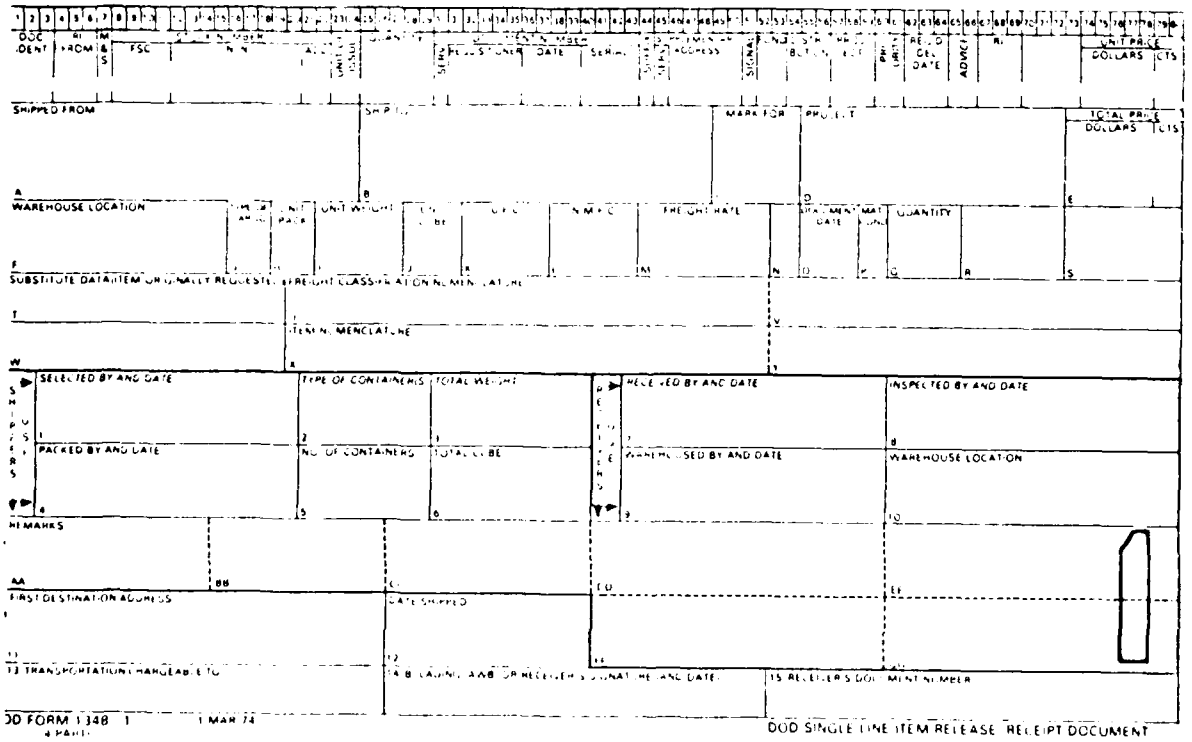

Figure 2: AF Form 1348-1

III. PROCEDURE

The hazardous waste management program was evaluated in four ways. First, the present hazardous waste management plan was reviewed. Next, key personnel responsible for the hazardous waste management program were interviewed. Then the major industrial shops generating chemical wastes and the major accumulation sites were visited. Finally, chemical disposal survey forms (Appendix B) were distributed. The data was consolidated into the resulting findings.

Hazardous Materials Technical Center developed the present hazardous waste management plan.

The following key individuals were contacted to discuss their responsibility and involvement in the hazardous waste program:

1Lt Jeffrey Mason, Chief, Bioenvironmental Engineering, SGPB, AUTOVON 968-3534
Mr Dave Stokes, Environmental Coordinator, DEV, AUTOVON 968-2576
Mr Burrmaster, Chief, DRMO, AUTOVON 968-2871

The individual shops were visited to observe their work practices and to give out chemical disposal survey forms. The completed forms were reviewed by the survey team providing additional information for the overall characterization of the shop's hazardous waste program. Also, each hazardous waste accumulation site (6 total) was visited and the conditions of each site documented.

Based on the data from the completed chemical disposal survey forms and the amounts given by the shop personnel, the estimated annual forecasted quantities for 11 categories of waste were determined (see Table 1). From Table 2, Column 3, the majority of the wastes, 80%, consists of paints and thinners, oils and fluids. Eighty percent of the total wastes are drummed. The major categories of drummed wastes (see Table 2, Column 5) are paints and thinners, oils and fluids. Itemized listings of waste categories, shops, amount of waste and disposal method are found in Appendix D for all wastes and in Appendix E for drummed wastes.

Table 2
Annual Forecasted Quantities for Waste Categories at MacDill AFB

	TOTAL	%TOTAL	TOTAL DRUMMED	%TOTAL
Paint & Thinners	5657	13.4	5657	15.7
Strippers	460	1.1	460	1.3
Acids	968	2.3	0	0
Soaps	1616	3.8	0	0
Oils	13360	31.6	13360	37.2
Fluids (hydraulic and transmission)	1101	2.6	1101	3.1
Fuels	15240	36.0	12570	35.0
Antifreeze	1478	3.5	1478	4.1
Solvents (non PD-680)	1102	2.6	45	0.1
PD-680	1185	2.8	1185	3.3
TOTAL:	42327		TOTAL:	35911

IV. DESCRIPTION OF INDUSTRIAL ACTIVITIES

A. The AFOEHL survey team surveyed and documented chemical management practices in a total of 39 industrial shops at MacDill AFB and APBR (Appendix D). These include 28 shops and 5 tenant activities at MacDill AFB and 5 shops and 1 tenant activity at APBR.

The paragraphs below give the squadron, the shop, the location, the contact point and the AUTOVON number for the contact point. Also discussed below are the shop descriptions and the chemical waste disposal practices.

1. 56 Transportation Squadron

a. 56 TRANS Allied Trades — Building: 500
Contact: Sgt Ferrang — AUTOVON: 968-2435

Allied Trades shop personnel perform vehicle body work and painting. Painting is done using a waterfall paint booth. The paint wastes from the waterfall paint booth are changed out twice per week and put into a 55-gallon drum. When the drum is approximately 75-80% full, it is taken outside to an accumulation storage area. The drum stays at the accumulation area until it is full. The paint booth accumulates approximately 5 gallons of sludge every 90 days. The sludge is put into a separate 55-gallon drum. The paint booth wastewater, approximately 250 gallons, is dumped into the sanitary sewer. The shop also generates waste paints and thinners (10.5 gallons/month). These wastes are disposed of as hazardous waste. Allied Trades and Vehicle Maintenance share one Safety Kleen degreasing unit (30 gallon). The unit is serviced by the Safety Kleen Corporation once every month. A Civil Engineering contract funds the Safety Kleen change out.

b. 56 TRANS Vehicle Maintenance — Building: 500
Contact: SSgt Wollenberg — AUTOVON: 968-2439

Vehicle Maintenance personnel maintain government vehicles and heavy equipment. Waste oil (220 gallons/month), waste fuel (20 gallons/month) and waste antifreeze (55 gallons/month) are disposed of as hazardous waste by the contractor. The waste oil is taken weekly to a 1000-gallon bowser at the accumulation storage area. The floor drain runoff goes to the oil/water separator that is cleaned out once every six years by a contractor. The used Speedy Dry is thrown into the garbage. Batteries are bought and exchanged through CoPars. Dirty rags are exchanged one for one at the Linen Exchange.

c. 56 TRANS Minor Maintenance — Building: 527
Contact: SSgt Quickbear — AUTOVON: 968-4647

Minor Maintenance personnel perform maintenance on vehicles requiring two hours or less to repair and install deferred parts on a fleet of 810 vehicles. Waste oil (5 quarts/month) is drained into a pan then put into a 55-gallon drum (see Figure 3). When this drum is full, it is emptied into the main oil waste bowser at the accumulation storage area, building 500. Spent antifreeze (4 quarts/month) goes down the drain. The shop is serviced by an oil/water separator and is disposed of in the sanitary sewer. The shop has one Safety Kleen unit (30-gallon tank) which is serviced monthly by a contractor. Used rags are exchanged one for one at the Linen Exchange.

d. 56 TRANS Fire Truck Maintenance — Building: 8
Contact: SSgt Hopkins — AUTOVON: 968-2379

Fire Truck Maintenance shop personnel maintain firefighting vehicles. Maintenance includes periodic oil and lubrication changes, washing the vehicles and safety inspections. Waste oil (17 gallons/month) is taken by fire truck maintenance personnel to a 600-gallon bowser which is pumped out by a contractor. Waste antifreeze (12 gallons/month) drains into an oil/water separator that is cleaned out every three months. The shop has one Safety Kleen unit (20-gallon tank) that is serviced every two months by the Safety Kleen contractor. SSgt Hopkins, accumulation site monitor, maintains a log of quantity and oil type put into the 600 gallon bowser by each shop. He also secures the key for the locked lid on the bowser. Dirty rags and expended batteries are taken to building 500. JP-4 (only fuel contaminated with less than 10% water) and hydraulic fluid from shops on base are taken to a storage area for use in fire training (see Figure 4).

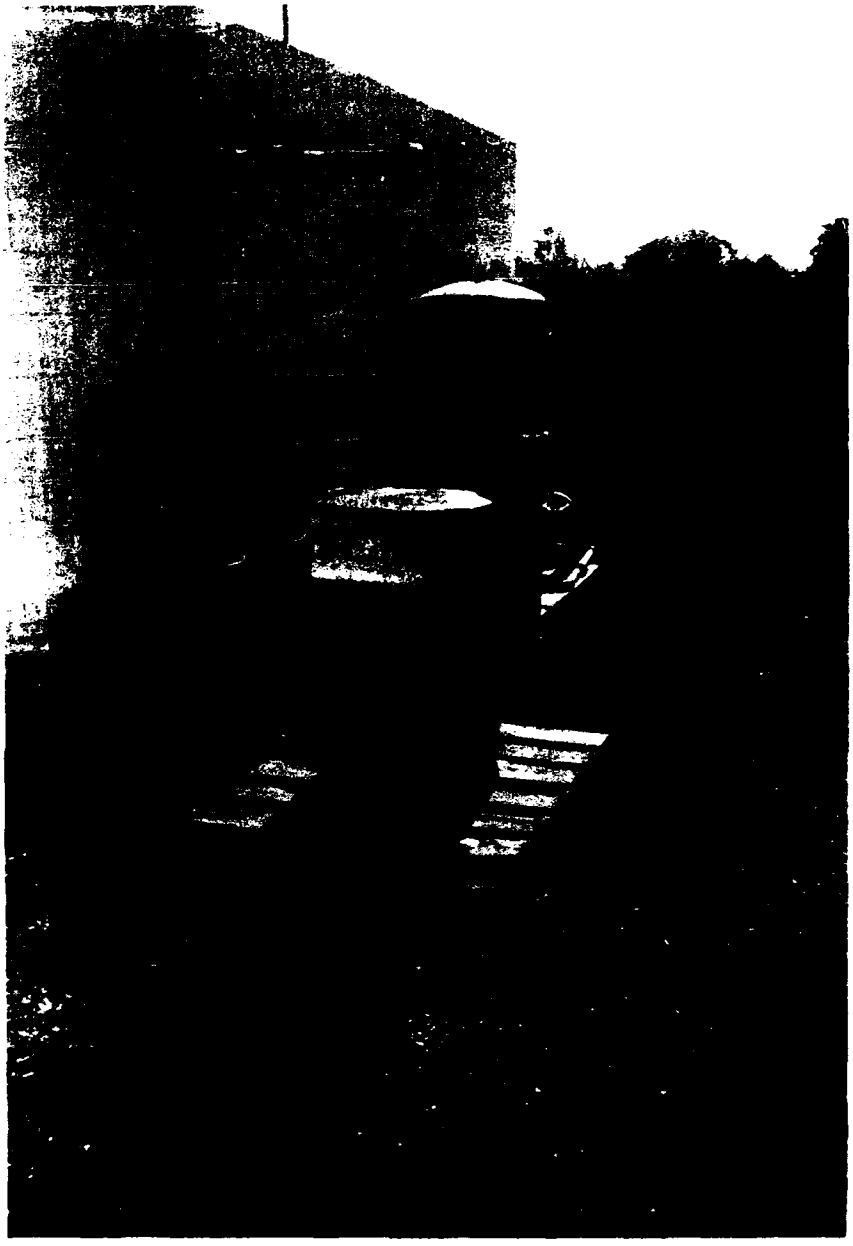

Figure 3: Waste Storage Area for Minor Maintenance

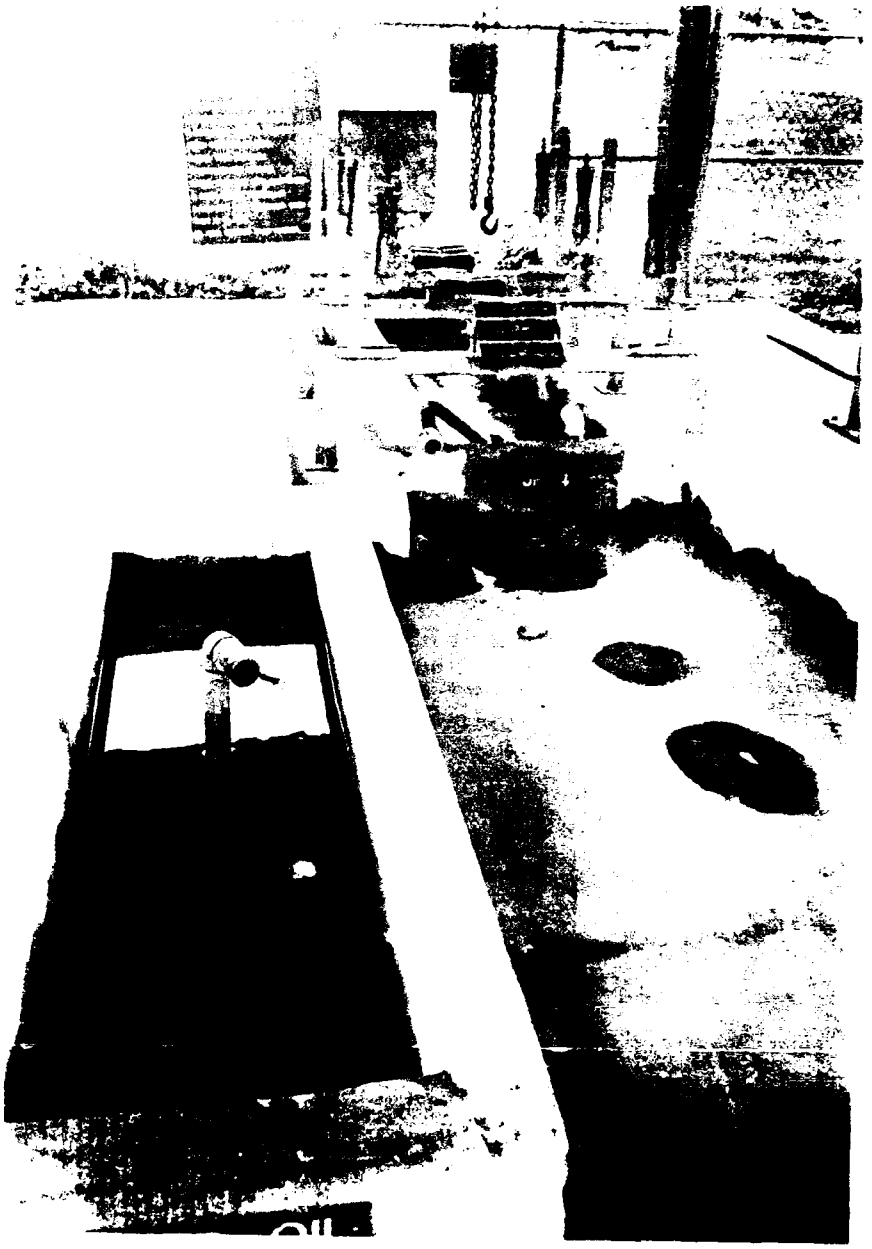

Figure 4: Fire Training Fuel Storage Area

e. 56 TRANS Refueling Maintenance — Building: 1061
Contact: Donald Kinter — AUTOVON: 968-3370

Refueling Maintenance shop personnel perform refueling and maintenance on vehicles. Waste oil (27-57 gallons/month) is poured into the 300-gallon bowser at building 1050. A contractor pumps out the bowser when it is full. Waste fuel is pumped out once every six months. The shop has one Safety Kleen degreasing unit (40-gallon tank) that is serviced by the Safety Kleen contractor once per month. Waste antifreeze drains into the sanitary sewer. Empty spray paint cans are thrown into the dumpster. Used rags are exchanged one for one at the Linen Exchange.

f. 56 TRANS Harvest Eagle Refueling — Building: 1050
Contact: Donald Kinter — AUTOVON: 968-3370

Harvest Eagle Refueling shop personnel perform maintenance on Harvest Eagle refueling vehicles. Waste oil (15-35 gallons/month) is put into the 300-gallon bowser behind the building. When changing oil, a small amount drains into the oil/water separator, but most drains into the bowser.

2. 56 Combat Support Group

a. 56 CSG Auto Hobby Shop — Building: 305
Contact: Ray Dempsey — AUTOVON: 830-4553

The 56 CSG Auto Hobby Shop is located in a "garage-type" building which allows personnel to service and repair their privately owned vehicles. Shop personnel are there to answer questions and oversee the operations. A dry paint booth is located inside this building. The filters (12 filters/ month) from the paint booth are disposed of in the dumpster. The shop has a Safety Kleen degreasing unit (20 gallon) which is serviced by the Safety Kleen contractor monthly. Presently, the shop has one PD-680 tank (50 gallons/ month) in use. A contractor changes out the PD-680 twice a month. The shop will eventually get another Safety Kleen unit to replace the PD-680 unit. Aircraft soap (1000 gallons/year) is diluted 40:1 and used for cleaning the shop floors. The wastewater drains into the sanitary sewer through the oil/water separator. Paper towels are used instead of cloth rags. Waste paints and thinners, if any, are carried home with the patrons. The floor drains are connected directly to an oil/water separator which is cleaned out once every six months. Patrons drain their waste oil (206 gallons/ month) into a 55-gallon drum located inside the shop. When full, the drum is taken to a 2000-gallon bowser (see Figure 5). The waste oil is poured into the bowser from buckets. This creates a lot of spillage around the site. The bowser is pumped out once per month. Waste antifreeze (20 gallons/month) is disposed of into the sanitary sewer through the oil/water separator.

b. 56 CSG Photo Laboratory — Building: 25
Contact: TSgt Ellis — AUTOVON: 968-2351

56 CSG Photo Laboratory personnel develop film for the two commands and Non-Destructive Inspection (NDI) shop. The paper and film are collected and transported to DRMO for disposal. The fixer for the black and white film processing and other small amounts of chemicals are sent down the drain.

Figure 5: Auto Hobby Waste Oil Storage Bowser

3. 56 Component Repair Squadron

a. 56 CRS Pneudraulics — Building: H-2
Contact: Sgt Vedder — AUTOVON: 968-4610

The 56 CRS Pneudraulics Shop personnel maintain aircraft pneudraulic components. The hydraulic fluid waste is taken to the Fire Department waste drum. At the time of the survey, the use of PD-680 had been changed to Safety Kleen for only a month. The Safety Kleen degreasing unit (100 gallon) is anticipated to be changed once every three months by the Safety Kleen contractor. The test stand generates waste hydraulic fluid (22 gallons/month) which is put into a 55-gallon drum. When the drum is full, it is taken to the Fire Department storage and dumped. The drum is reused until it becomes unserviceable and then taken to salvage. The used rags are exchanged one for one at the Linen Exchange. The ultrasonic degreasing machine uses Safety Kleen (4 gallons/year). The Safety Kleen is changed out once every three months. Currently, shop personnel are using methyl ethyl ketone (MEK) from gallon cans but they are trying to get MEK and TRK in spray cans.

b. 56 CRS Jet Engine Test Cell — Building: 1144
Contact: SSgt Fullerton — AUTOVON: 968-3398

56 CRS Jet Engine Test Cell personnel troubleshoot engines, perform field tests and conduct engine rev-up procedures on the F-16 engine. The engine oil (12 quarts/month) goes down the drain into the oil/water separator. The dirty rags are exchanged one for one at the Linen Exchange. The rags used in an oil spill are put into contaminated storage. An industrial detergent is used for floors. Paint brushes are thrown into the dumpster.

56 CRS Sound Suppression, building 1152, personnel service approximately 25 aircraft per month. There is a three-phase oil/water separator which is cleaned out by the contractor once every four to five months.

56 CRS Hush House, building 1195, personnel have a computer to trim approximately 10 aircraft engines per month. The Hush House has an oil/water separator which is cleaned out by contractor.

c. 56 CRS Fuel Cell Repair — Building: 1071
Contact: SSgt McCollum — AUTOVON: 968-2806

56 CRS Fuel Cell Repair Shop personnel clean and repair aircraft fuel tanks. This includes removal and replacement of aircraft fuel cells, and certification and maintenance of external tanks. The hydrazine waste is picked up by Civil Engineering. Equipment Maintenance Squadron takes care of the cleaning of the pit. The shop neutralizes their batteries. Personnel from Bioenvironmental Engineering do sampling to ensure batteries are neutralized.

4. 56 Equipment Maintenance Squadron

a. 56 EMS Non-Destructive Inspection — Building: 14
Contact: MSgt Davis — AUTOVON: 968-4313

56 EMS Non-Destructive Inspection (NDI) personnel provide nondestructive inspection services to 56 EMS. A machine uses jet engine oil (5 gallons/month) that is taken to the Fire Department for disposal. Trichloroethane (5 gallons/4 months) is placed in the 55-gallon drums at the Corrosion Control Shop. The vat (55 gallons) containing dye penetrant oil, a hydrophilic emulsifier, is changed out once every year. The dye penetrant oil goes into the sanitary sewer. Approximately 90% of the remover solution is water. Aerosol cans are used instead of developer solution in the Mag Particle Unit. The empty spray cans are disposed of in the dumpster. The sludge (20 gallons/year) is taken to the oil drum at the Fire Department. Paper towels are used instead of rags and are put into the dumpster. The x-ray unit uses developer (40 gallons/year) which goes into the sanitary sewer. The fixer (10 gallons/year) goes to the silver recovery unit at the Photo Lab.

b. 56 EMS Corrosion Control — Building: 1065
Contact: MSgt McDowell — AUTOVON: 968-4166

56 EMS Corrosion Control Shop personnel are responsible for painting aircraft and ground support units, and detecting and treating corrosion. The shop uses polyurethane thinners (55 gallons/month). The floor drains lead to a three-phase oil/water separator that is cleaned out annually by a contactor. Polyurethane paint (250 gallons/month) is stored in 55-gallon drums and marked hazardous waste. These drums are picked up and taken to DRMO. Rags are disposed of according to what chemical was absorbed in them. The alodine soaked rags are drummed separately (55 gallons/2 years). The dry paint booth filters (120 filters) are changed out once every week. The paint cans are expended and then thrown into the dumpster. A small amount of methyl ethyl ketone and epoxy paint remover is used. These chemicals are put into a 55-gallon drum and disposed of as hazardous wastes. The sandblasting process produces approximately 44 55-gallon drums of waste a year. These drums are now being disposed of as hazardous wastes. A distillation unit will be used to reduce some of the liquid wastes. Used Speedy Dry is stored in an open 55-gallon drum and disposed of as hazardous waste.

c. 56 EMS Red, Black and Blue Combat Munitions Units — Building: 843
Contact: SSgt Piazza — AUTOVON: 968-5417

56 EMS Red, Black and Blue Combat Munitions Units (CMU) personnel secure munitions in igloos and sand and paint missiles. The units sand missiles by hand and use air guns for painting. Any waste oil is carried to a 55-gallon drum. Each CMU has its own hazardous wastes generated at these locations. The DRMO is also responsible for the disposal of these wastes.

d. 56 EMS Wheel and Tire — Building: H-4
Contact: TSgt Sapawosky — AUTOVON: 968-4668

56 EMS Wheel and Tire Shop personnel assemble, disassemble and clean wheels and tires for the F-16. There are two rooms in this shop. The Vat Room contains two tanks. One tank contains a cleaning solvent (110 gallons) with water (130 gallons). The solution works well on oily stains but not as good as other solutions on heavy greases. The oils and greases are skimmed off the top and put into a 55-gallon drum. Plans to move the drum were made by transportation and eventually they were disposed of by contractor. The rest of the solution will be analyzed before being sent through the sanitary sewer. A second tank is a hot tank (400 gallons) with paint stripper. This solution is changed out once every year.

The Bearing Room has a PD-680 tank (30 gallon) that is changed out once every month and drummed. Another tank contains a preservative that is replenished as it is used. The methyl ethyl ketone (MEK) is wiped on and off with a rag and the residual evaporates. Approximately five 55-gallon drums of hazardous waste are accumulated over the two month period before a contractor picks up the drums. The dirty rags and coveralls are exchanged one for one at the Linen Exchange.

e. 56 EMS Phase Dock — Building: H-1
Contact: TSgt Wilson — AUTOVON: 968-2970

56 EMS Phase Dock personnel inspect the F-16 aircraft. Approximately 24 gallons of waste JP-4 are generated every month. This fuel is taken to the AGE Branch in 55-gallon drums. At the time of survey, the floors were being coated with polyurethane. This operation generated stripper and wax (330 gallons) which are disposed of as hazardous waste materials. This operation was a one time process. Used Speedy Dry is recycled until completely soiled and then thrown into the dumpster. The used rags are exchanged one for one at the Linen Exchange.

f. 56 EMS Areospace Ground Equipment (AGE) — Building: 552
Contact: SSgt Hartman — AUTOVON: 968-4025

56 EMS Aerospace Ground Equipment (AGE) Shop personnel maintain, service and dispatch flight line support equipment. A 600-gallon bowser for waste oil and fluids (300 gallons/month) is filled up every two months. The waste accumulation and storage area for AGE is shown in Figure 6. Oil is drained into a small drip pan then emptied into the bowser. When the bowser reaches a certain level, Civil Engineering (CE) is notified. CE then contacts the contractor to pump out the bowser. The floor drains of the shop lead to an oil/water separator. The shop has two oil/water separators that are cleaned out by CE when needed. The shop has one Safety Kleen degreasing unit (30 gallons) that is serviced once a month by the Safety Kleen contractor. The dirty rags are exchanged one for one at Linen Exchange. The used Speedy Dry is put into the dumpster. Soaps (25 gallons/month) are diluted 1:5 and go to the oil/water separator before being dischared to the sanitary sewer. All batteries are neutralized at the shop before turn-in. Sulfuric acid (40 gallons/month) is neutralized and checked with litmus paper. The neutralized sulfuric acid is then put into the sanitary sewer. JP-4 (1000 gallons/month) is taken to the base waste accumulation point. When the antifreeze fails to meet the standards, the waste antifreeze (5 gallons/month) goes down the drain.

g. 56 EMS Propulsion — Building: H-4
Contact: MSgt Hohman — AUTOVON: 968-4500

56 EMS Propulsion Shop personnel perform engine maintenance on the F110 and F100 turbo fan engines for F16 aircraft. Synthetic motor oil (100 gallons/month) and hydraulic fluid (4 gallons/month) are put into separate 55-gallon drums. There are two 55-gallon drums of waste fuel in the accumulation point. The fuel goes to the Fire Department. If after analyses from the Petroleum, Oils and Lubricants (POL) Laboratory, the fuel contains 10% water, it is taken to DRMO. The floor drains of the shop go into an oil/water separator that is cleaned out yearly by a contractor. The Speedy Dry is thrown into the dumpster. The dirty rags are exchanged one for one at Linen Exchange. Any paint wastes (15 gallons/month) or thinners (5 gallons/month) generated are taken to DRMO in 55-gallon drums. The accumulation point is secured, a log is maintained recording who disposes of wastes and signs for the key.

Figure 6 : Waste Area for AGE

5. 56 Aircraft Generation Squadron

a. 56 AGS Aircraft Maintenance Yellow — Building: 187
Contact: TSgt Sillavan — AUTOVON: 968-2368

56 AGS Aircraft Maintenance Yellow personnel perform aircraft maintenance on the flight line. AGE disposes of any waste oils (1 quart/ month). There are three 55-gallon drums designated for JP-4, one 55-gallon drum for hydraulic fluid and one 55-gallon drum for engine oil. When the drums are full, AGE picks them up and takes them to the accumulation point. If any spills occur, Fire Department personnel wash off the area.

b. 56 AGS Aircraft Maintenance Blue — Building: 183
Contact: TSgt Sillavan — AUTOVON: 968-3081

56 AGS Aircraft Maintenance Blue personnel perform aircraft maintenance on the flight line. There are four 55-gallon drums for JP-4 waste and one drum for hydraulic fluid waste. All wastes are picked up by AGE and taken to the accumulation point. Very small quantities of wastes are generated.

6. 56 Civil Engineering Squadron

a. 56 CES Fuels Laboratory — Building: 1064
Contact: SSgt Scanlon — AUTOVON: 968-3462

The 56 CES Fuels Laboratory personnel perform maintenance on stationary fuel systems associated with transporting fuel. All liquid fuels such as JP-4, Mogas and diesel and spent solvents are put into a mobile 500-gallon bowser located in the back of the building. Approximately two 55-gallon drums of oil are generated per year. The contractor picks up the waste immediately after they are contacted and disposes of the oil. The shop personnel perform their own cleaning or changing of the tank. Whenever the Fire Department is short of fuel, they use the contents of the mobile bowser for the burn pit. Approximately one 55-gallon drum of PD-680 is generated every two years. The mobile bowser is located on a concrete slab with gravel on three sides.

b. 56 CES Power Production — Building: 1050
Contact: Mr John Collier — AUTOVON: 968-4711

56 CES Power Production personnel service emergency generators. Wastes generated are waste lube oil, diesel fuel and sulfuric acid from batteries. The battery room has a barrel for neutralization. The battery acid is washed, rinsed and then calcium bicarbonate is used to finish the neutralization. Approximately 100 batteries are serviced on base. Approximately six batteries/month are neutralized. The waste oils and fuels are put into a 200-gallon bowser shared with Harvest Refueling Shop. The bowser is changed out once every month by a contractor. The storage area has extra drums for overload and a recovery drum for spills.

c. 56 CES Paint Shop — Building: 32
Contact: Mr Turchetta — AUTOVON: 968-2387

56 CES Paint Shop personnel paint the interior and exterior of buildings, structures and signs on MacDill AFB. Waste oil (50 gallons/month) and paint thinners (55 gallons/4 months) are kept in separate drums. Latex paints are drummed separately. The drums are kept 90 days. Transportation picks up the drums and the contractor disposes of them. The used rags are thrown into the dumpster after drying. If a solvent is absorbed by the rag, the rag is washed with water, dried and thrown away.

d. 56 CES Entomology — Building: 864
Contact: Mr Bradford — AUTOVON: 968-2991

56 CES Entomology Shop personnel spray insecticides, pesticides and herbicides at the base. The chemicals are mixed according to the size of the job being done. If any premixed chemicals are left, they are remixed and reused the next day. The containers and boxes are triple rinsed in water then turned in to DRMO. The rinsate is put into the truckster unit or put in a container that will be used the next day. When washing the trucks used for spraying insecticides, the rinsate from the truck goes directly into the sanitary sewer.

e. 56 CES Exterior Electric Shop — Building: 29
Contact: SSgt Gomes — AUTOVON: 968-2696

56 CES Exterior Electric Shop personnel maintain and repair exterior power sources. There are 20 transformers that are critical and inactive. The waste generated is transformer oil which contains polychlorinated biphenyls (PCB). There are three or four transformers that are active.

f. 56 CES Refrigeration Shop — Building: 29
Contact: SSgt George — AUTOVON: 968-5109

56 CES Refrigeration Shop personnel maintain air conditioning and refrigeration equipment throughout the base. The only waste being stored was approximately three 5-gallon containers of waste oil contaminated with freon. The paint or thinner wastes generated are taken to the Paint Shop. The spent freon containers are disposed of through DRMO.

7. Joint Communications Support Element

a. JCSE Generator/Battery Shop — Building: 862
Contact: SSgt Wood — AUTOVON: 968-2819

JCSE Generator/Battery Shop personnel perform complete maintenance on wheeled vehicles and generators. The acid in approximately 10-12 batteries are neutralized every month. The neutralization process involves putting the battery acid into a container and adding calcium bicarbonate (baking soda). To determine neutralization, the pH is tested with Litmus paper. The batteries used are not maintenance-free. The vehicle batteries are exchanged through CoPars. The floor drains of the shop lead to an oil/water separator which is cleaned by contractors annually. This shop shares a Safety Kleen unit (55 gallons) with the other shops in the building. The unit is serviced every four months by the Safety Kleen contractor. The soiled rags are disposed in the trash. The used Speedy Dry is disposed of in the dumpster.

b. JCSE Allied Trades — Building: 862
Contact: SSgt Wood — AUTOVON: 968-4820

JCSE Allied Trades personnel perform vehicle body work and painting. A dry filter paint booth is used for painting. The filters (30 filters/month) are thrown into the dumpster. Paint waste (45 gallons/month) and thinners are drummed and disposed of as hazardous wastes. Base transportation picks up the drums from the accumulation site and takes them to DRMO. Waste oils and fluids (107 gallons/month) are put into the 500-gallon bowser. The bowser is emptied in one to six months depending on the work load. A PD-680 degreasing unit (55 gallons) is changed out once every four months. Aircraft surface soap (20 gallons/month) is used for floor washing and the wastewater drains into the sanitary sewer. Sulfuric acid (40 gallons/month) is neutralized and then poured into the sanitary sewer. Speedy Dry is used until saturated and then thrown in the dumpster. The soiled rags are exchanged one for one at the Linen Exchange. All vehicles are washed once every week.

8. Tenant Units

a. AFLC Fuels Laboratory — Building: 1101
Contact: Mr Sisco — AUTOVON: 968-4045

AFLC Fuels Laboratory personnel monitor the quality of gas and compressed breathing air in aircraft and breathing oxygen. The waste oils and fluids (5 gallons/month) are taken to the Energy Management Laboratory in a 55-gallon drum.

b. Energy Management Laboratory — Building: 1121
Contact: Ms Korty — AUTOVON: 968-4045

Energy Management Laboratory personnel analyze hazardous waste, checking for gumming on the RJ-4 cruise missile fuel and other fuels. Waste oils and fuels (150 gallons/year) are drummed and placed at the accumulation point located at the side of the building. Base transportation is contacted to pick up wastes which are disposed of by the contractor.

c. Florida Air National Guard — Building: 1885
Contact: TSgt Sanchez — AUTOVON: 830-4146

Florida Air National Guard (FLANG) personnel maintain all of the unit's vehicles and equipment. The cleaning unit (15 gallons) uses PD-680. Shop drains go to an oil/water separator then to a 550-gallon underground tank. When the oil (50 gallons/month) is drained from the vehicles, it goes down the floor drains. Approximately 16 batteries are neutralized per year using sulfuric acid which goes to the oil/water separator. The washrack drains into a holding pond located approximately 25 yards away.

d. 37th Evacuation Group — Building: 701
Contact: MSgt Allen — AUTOVON: 968-2802

37th Air Evacuation Group personnel maintain portable generators and personal equipment for mobile aeromedical systems. There are two underground storage tanks with capacities of 50 and 200 gallons. Waste motor oil (6 gallons/month) and neutralized battery acid (8 gallons/year) go into these tanks. The floor drains in the shop lead to an oil/water separator connected to the sanitary sewer. The Safety Kleen (55 gallons/year) unit is anticipated to be cleaned once every year. The dirty rags and Speedy Dry are thrown in the dumpster. Enamel paints (6 gallons/month) are thrown in the dumpster. Alkaline (1 quart/month) and solvent emulsion (1 pint/month) soaps drain into the field located near the building. Cleaning solvent (1gallon/month) is diluted with water and also drains into the field near the building.

e. 71st Tactical Control Facility-Vech Maint — Building: 70
Contact: Sgt Weichert — AUTOVON: 968-4506

71 TCF is responsible for maintaining vehicles and equipment for the unit. Contaminated soil from spilled oil(55 gallons/6 months), paints (110 gallons/3 months), spent antifreeze (approximately 25 gallons/4 months), and contaminated fuel (55 gallons/3 months) are drummed and picked up by transportation. Waste oil (300-500 gallons/4 months) is put into an 800

gallon bowser and pumped out every three months. The storage area is considered a satellite point. The dirty rags are exchanged one for one at the Linen Exchange.

9. 56 Combat Support Squadron (APBR)

a. 56 CSS Vehicle Maintenance — Building: 71
Contact: Mr Kopp — AUTOVON: 86-132

56 CSS Vehicle Maintenance personnel maintain the government vehicles and equipment. An underground storage tank (500 gallon) (see Figure 7) for used motor oil (250 gallons/month) fills to capacity in six to eight weeks. A contractor from Tampa is responsible for pumping out the tank and disposal. One Safety Kleen unit (60 gallons) is used and changed out once every three months by the Safety Kleen contractor. Antifreeze (10-15 gallons/month) and transmission fluid (10 gallons/month) are put into separate 55-gallon drums and taken directly to DRMO by shop personnel. Dirty rags are laundered at MacDill AFB. Speedy Dry is disposed of in a dumpster and taken to a sanitary landfill by a service contractor. The lead acid batteries (20/month) are picked up unneutralized by a service contractor. Automotive soap (15 gallons/month), diluted 25:1, is used to wash vehicles and the wastewater is disposed of down the sanitary sewer.

b. 56 CSS Paint Shop — Building: 71
Contact: Richard Spurlock — AUTOVON: 86-132

56 CSS Paint Shop personnel paint vehicles and other equipment. Waste thinners, oil-based paints and lacquers (56 gallons/month) are generated. Other shops' wastes are brought to this shop. Most of the paints used are latex based paints. The latex is air dried and put into the dumpster. Paint brushes are thrown into the dumpster. Dirty rags are thrown into the dumpster.

c. 56 CSS Power Production — Building: 71
Contact: TSgt Monnet — AUTOVON: 86-132

56 CSS Power Production personnel service and maintain all power generation equipment at APBR. A service contractor picks up the batteries wet. Waste oil (approximately 800 gallons/year) go into the 500-gallon underground storage tank that is pumped out by a contractor every six months. The shop services 43 generators. Waste antifreeze (approximately 110 gallons/year) is stored in drums. Rags are used until they are too dirty then placed in plastic bags and thrown into the dumpster. A Safety Kleen degreasing unit (20 gallon) is serviced once every three months.

d. 56 CSS Range Maintenance — Building: 71
Contact: TSgt McClellan — AUTOVON: 86-132

56 CSS Range Maintenance personnel maintain the parachute pad and range. Latex paints are used for touching up the parachute pad. Paper towels are used and thrown into the dumpster. Used oil (10 gallons/month) is put into the Power Production Shop tank.

Figure 7: APBR Underground Storage Tank

e. 56 CSS Entomology
Contact: Jim Moore

Building: 64
AUTOVON: 86-291

56 CSS Entomology shop personnel spray APBR for insects. The containers used for mixing the chemicals are triple rinsed with water, marked triple rinse, and put into the dumpster. There is no waste generated. All chemicals are used up in process.

10. Army National Guard
Contact: CWO2 Smith

The Army National Guard personnel maintain, service and repair vehicles, trucks and heavy equipment. Used oil (4 drums/month) is sent to Camp Landing. The drums are shipped by arranging for a semi-truck. Batteries are turned-in wet to a contractor. Four 55-gallon drums are used to collect different types of lubrication, used rags and antifreeze. Cleaning solvents and thinners are drummed separately. Biodegradable soap is used at the washrack and drains directly into the ground. One of the two solvent parts cleaning tanks (20 gallons) is pumped out every two months by contractor. The other one is cleaned every four months depending on work load. There are two underground waste fuel tanks.

B. Hazardous Waste Accumulation Sites. Six accumulation sites were visited at MacDill AFB and the conditions at each are presented in Table 3.

Site	Location	Bldg
1	56 TRANS Vehicle Maintenance	500
2	56 EMS Propulsion	H-4
3	Energy Management Laboratory	1121
4	JCSE	862
5	Waste Transfer Disposal Area	
6	Undocumented Hazardous Waste Area	CE North Storage Area

Table 3. Conditions of Accumulation Sites

Site	1	2	3	4	5	6
Secure	Y	Y	Y	Y	N	Y
Gates locked	Y	Y	N	Y	N	Y
Warning sign	N	Y	N	N	Y	Y
Impermeable floor	Y	Y	Y	N	N	Y
Diked/bermed	N	N	N	N	N	N
Valve in berm	N	N	N	N	N	N
Spill Equipment						
Overpack	N	N	N	N	N	N
Spill supplies	N	N	N	N	N	N
Extinguisher	N	N	N	N	N	N
Container						
Funnels used	Y	Y	N	N	N	N
Container closed	Y	Y	Y	Y	Y	Y
Deteriorating	N	N	N	N	Y	N
Leaking	N	N	N	N	Y	N
Spills	Y	N	N	N	Y	N
Labeled	Y	Y	Y	Y	Y	Y

N = NO
Y = YES

V. SUMMARY OF GENERAL WASTE DISPOSAL PRACTICES

This section summarizes general waste disposal practices for different categories of waste. These disposal practices for each waste category are contained in Appendix D.

1. Waste paints and thinners are poured into 55-gallon drums, stored at the accumulation site near the shop and then transported by the contractor to disposal. In general, the paint and thinners are not separated.

2. Waste antifreeze is placed in 55-gallon drums and stored at the shop and then transported by the contractor to the final disposal site. Shops with small amounts of antifreeze disposed of it down the drain to an oil/water separator or directly into the sanitary sewer.

3. Soiled rags are taken to the base laundry and exchanged for clean ones.

4. Waste fuel and hydraulic fluid are placed in 55-gallon drums and designated as hazardous waste, picked up by the contractor.

5. Empty spray paint cans are thrown into the dumpster.

6. PD-680 is put into 55-gallon drums and disposed of as a hazardous waste.

7. Most solvents (PD-680) are rinsed down the drain or used up in process. Approximately 0.1% of these solvents are drummed.

8. Safety Kleen personnel service the Safety Kleen degreasing units at the shops on a regular basis. They drain the used degreasant and refill the units on a schedule for each shop.

9. Waste fluids are put into either 55-gallon drums or bowsers. The drums in somes cases are pumped out by the contractor or picked up and taken to final disposal.

10. Soap water either goes to an oil/water separator then down the drain or directly into the sanitary sewer.

11. Waste oil is either placed in 55-gallon drums, bowsers or tanks. The contractor will pump out the bowsers and tanks, pick up the drums and take them to the final disposal site.

12. The fixer, dye penetrant, and developer are put down the drain to the sanitary sewer. The mag particle solution is put into 55-gallon drums, picked up by the contractor and taken to the final disposal site. The fixer goes through a silver recovery unit and then disposed of in the sanitary sewer.

VI. CONCLUSIONS

A. MacDill AFB Hazardous Waste Program was operating in compliance with RCRA. The shops are responsible for identifying what goes into waste containers. Each shop has a designated drum or container for particular wastes such as waste oil, antifreeze, etc.

B. Currently, DRMO does not have a Hazardous Waste Storage Facility. A new facility is scheduled to be completed. Wastes are kept at the individual accumulation sites for up to 90 days. DEV is contacted in order to get the waste removed before the 90-day point.

C. In some shops, the lead-acid batteries are exchanged one for one, eliminating the need to neutralize the battery. Other shops, however, still neutralize their batteries.

D. Most shops exchange all of their rags on a one-for-one basis through linen exchange for clean ones. Some shops have started drumming contaminated rags for disposal as hazardous wastes.

E. Energy Management Laboratory does hazardous waste analyses screening for chlorine, sulfur, lead and flash point. This eliminates excessive analytical and disposal costs giving the base timely hazardous waste results.

I. Shop personnel have knowledge of what is designated as a hazardous waste and what is nonhazardous.

VII. RECOMMENDATIONS

Lt Scott outbriefed recommendations on 23 February 1989 to the Bioenvironmental Engineer and the Environmental Coordinator. This briefing included the overall assessment of the base's program and the following recommendations:

1. The 56 EMS Corrosion Control should put the distillation unit into operation as soon as possible to minimize hazardous waste disposal costs.

2. Waste transfer storage area should be regulated to have specific dates, time and place for personnel to deposit wastes. (Figure 8)

3. The undocumented waste storage area has unlabeled drums. The contents are not known on most of the drums. Analyses should be done to properly dispose of the wastes. (Figure 9)

4. Fill to capacity the 55-gallon drum located in the paint booth at Vehicle Maintenance, building 500, and use it as a satellite site instead of removing the drum at 75-80% capacity.

5. Analyze the wastewater from the paint booth at 56 TRANS Allied Trades for total metals. Collect three samples for a good representive analyses. From the analytical results, proper disposal can be done.

Figure 8: Waste Transfer Area

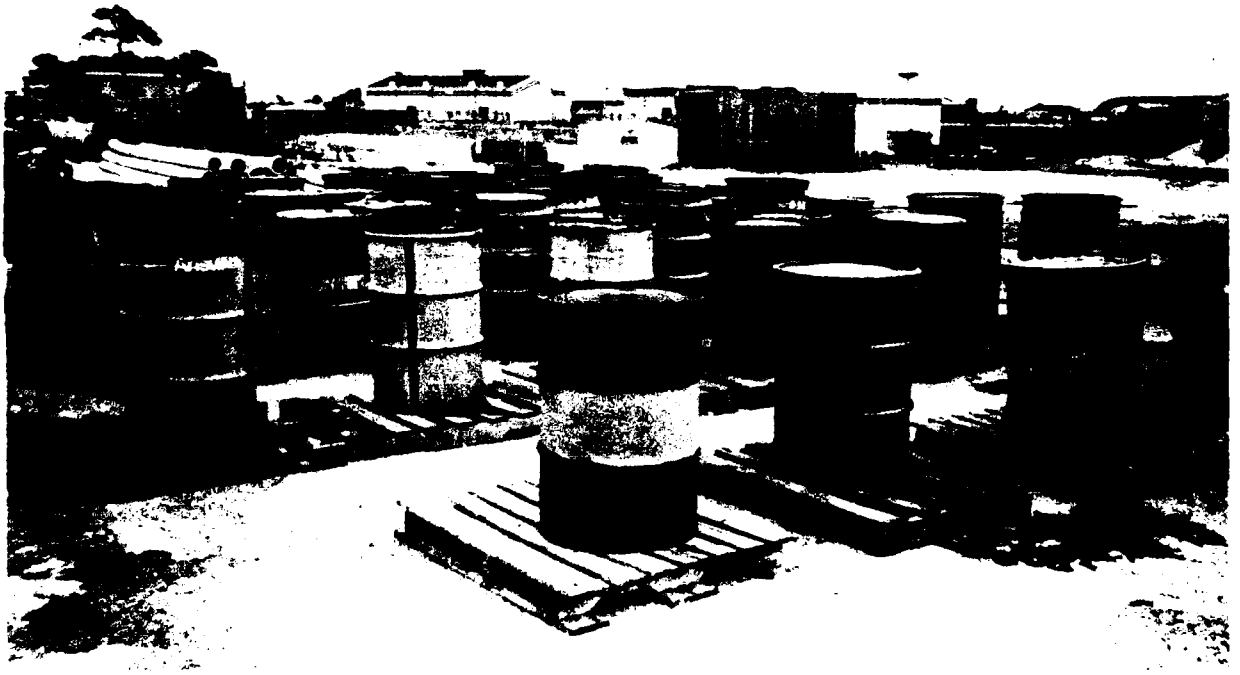

Figure 9: Undocumented Hazardous Waste Area

6. Put the paint sludge from the paint booth at 56 TRANS Allied Trades into the same drum as the paint waste. This consolidation of drums will result in more space.

7. Dispose of the drums located in the Phase Docks at Hanger 1. This will prevent spilling and the accumulation of drums.

8. Collect samples from the citrus-type cleaner after skimming the solid material in the Wheel and Tire Shop. Collect and analyze three samples for characteristic hazardous waste analysis. Since this will be a baseline sample, a characterization of the waste is important.

9. Change the PD-680 tank in the Wheel and Tire Shop to Safety Kleen. This eliminates hazardous waste disposal costs of PD-680.

10. Collect and analyze change out solution for the hot tank at the Wheel and Tire Shop to determine if it should be disposed of as hazardous waste.

11. Collect and analyze the hydrophilic penetrant, emulsifier and remover in the Non-Destructive Inspection shop to determine if these solutions are hazardous. Collect three samples from each solution.

12. Determine if JCSE uses PD-680 or Safety Kleen. If JCSE uses PD-680, then the unit might consider leasing a Safety Kleen degreasing unit. This will be less than disposal costs for the PD-680 degreasant.

13. Perform analyses on paint booth located at JCSE for three change outs. Do characteristic hazardous waste analyses on a 1" X 1" square from the dirtiest area of the filter to determine if the filters are hazardous waste.

14. Clean the area around the Auto Hobby Shop by removing any contaminated soil and putting concrete under the tank. Ask personnel to be more careful when putting oil into the 2000 gallon aboveground tank.

15. Empty the PD-680 tank at the Auto Hobby Shop and use Safety Kleen solely because the shop has two units, one with Safety Kleen and the other PD-680. It will be cheaper to use Safety Kleen instead of PD-680 primarily for disposal costs. Since the base has a contract with Safety Kleen to maintain their units, shop personnel won't have to deal with the disposal.

16. Analyze the unknown drum for contents at Power Production and dispose of it properly.

17. Clean and control the dumping area at Power Production by maintaining records of who dumps the waste, what waste is being dumped and the quantity of the waste.

18. Analyze the paint filters from the 56 EMS Corrosion Control paint booth. Do EP Toxicity on a 1" by 1" square from the dirtiest area of the filter to determine if the filters are hazardous waste. Dispose of the filters in the dumpster if nonhazardous.

19. Perform sampling on the sand from the 12 drums at Corrosion Control. Take three composite samples consisting of sand from each drum. Do EP Toxicity on the composites. If the samples are found to be nonhazardous, this will eliminate hazardous waste disposal costs.

20. Remove the excess drums from Corrosion Control to eliminate crowding.

21. Implement the battery exchange program through CoPars for the 71st TCF.

22. Give guidance to the 71 TCF in new chemical storage. 71 TCF is a relatively new unit on base and needs assistance on where and how to store new chemicals.

23. Place covers on the drains at the Florida Air National Guard (FLANG) unit so that spillage will not go into the sanitary sewer.

24. Consider Safety Kleen by FLANG as an alternate solvent. This will eliminate disposal costs and the contractor will maintain the unit.

25. Start a maintenance schedule for the oil/water separator located behind the Sound Suppression, building 1152. The oil/water separator has not been pumped out on a regular basis which causes overflow whenever there is a heavy rain. A maintenance schedule will eliminate this problem.

26. Clean the carbon discoloration on the Sound Suppression Building for general appearance. The discoloration gives the impression that spillage has occurred.

27. Perform a leak test analysis on the rinsewater UST at the Energy Management Lab, building 1121. The ground near the UST storage is consistently wet. A leak test has never been performed. Since the ground is wet, this could indicate a leak.

28. Remove three old drums at the Refrigeration Shop dated January 1988. Full drums should not be maintained at the shop over 90 days.

29. Perform a leak test at Avon Park Bombing Range (APBR) on underground storage tank behind building 72. The underground storage tank has been in place approximately five years and has never been tested.

30. Secure the vehicle maintenance tank at APBR to prevent contamination. This gives more control of the tank contents.

31. Make an arrangement between the Environmental Coordinator and Avon Park as to who should be responsible on base for filling out paperwork for waste generated. This will eliminate travel time back and forth for APBR personnel.

32. Contract out painting at APBR to eliminate the generation of paint wastes. Painting is minimal and the use of contractors eliminates having a storage area for paint and thinner wastes.

Table 4 WASTE ANALYSIS PLAN (EXAMPLE)

GENERATOR LOCATION	DESCRIPTION OF WASTE STREAM	WASTE STREAM CODE	BASELINE ANALYSIS DATE & RESULTS	*SAMPLING METHOD	*SAMPLING FREQUENCY	*PARAMETERS REQUIRED	*TEST METHOD	PROPER SHIPPING NAME & HAZARD CLASS	DISPOSAL METHOD	EPA HAZARDOUS WASTE #
Corrosion Control BLD 150	Paint sludge from paint booth	CC150-001	May 88 FP-H (70F) pH-NH RX-NH EP-H Cadmium Chromium	1 Grab sample	Every other drum	Flash Point Cadmium Chromium	1010 7130 7190	Waste Paint related material, mixture/FLAMMABLE LIQUID	DRMO	D001 D006 D007
Corrosion Control BLD 150	Rinsewater from waterfall paint booth	CC150-002	May 88 FP-NH pH-NH RX-NH TM-NH	Dipper	Every third cleanout of booth	Complete Analysis		N/A	Down Drain	
Corrosion Control BLD 150	Spent plastic bead blasting media	CC150-003	Aug 88 FP-NH pH-NA RX-NH EP-H Cadmium Chromium	1 Composite Sample	From every other drum	 Cadmium Chromium	 7130 7190	Hazardous waste solid (n.o.s.) (Cadmium & Chromium contaminated material)	DRMO	 D006 D007
Vehicle Maint. BLD 100	Waste Motor oil	VM100-001	Jun 88 FP-H (100F) pH-NA RX-NH TM-H Arsenic Cadmium Chromium Lead Total Halogens	Coliwasa	Quarterly	Flash Point Arsenic Cadmium Chromium Lead Total Halogens	1010 7061 7130 7190 7421 8010	N/A	Sold to Contractor for Recycle	D001 D004 D006 D007 D008
Vehicle Maint. BLD 100	Neutralized Battery Acid	VM100-0002	Aug 88 FP-NH pH-NH RX-NH TM-NH Lead	Grab Sample from tank using dipper	Semiannual	 Lead	 7421	N/A	Down Drain	 D008

Legend: FP - Flash Point
EP - EP Toxicity
TM - Total Metals
RX - Reactivity
NA -Not Applicable
H - Hazardous
NH - Non-Hazardous

33. MacDill AFB should develop a waste analysis plan. The current plan in the base's "Hazardous Management Plan" is inadequate. The plan is not specific to MacDill AFB but is an overall general wastestream analysis plan. This plan should include: a complete listing of all known wastestreams with a brief description of the process or operation generating the waste; the results of a baseline chemical analyses (to fully characterize the waste); the sampling technique; the analyses parameters; and the required test method (see Table 4 for example), in addition to the information already provided in the base's "Hazardous Waste Management Plan." A suggested listing of wastestreams specific to MacDill AFB is contained in Table 5.

Table 5. Suggested Listing of Wastestreams

SHOP	WASTESTREAM	FREQUENCY	SAMPLING METHOD
56 TRANS Allied Trades	Paint Booth wastewater	Do 3 analyses for total metals to verify if hazardous or nonhazardous	Coliwasa
56 TRANS Allied	Paints & Thinners	Each Drum	Coliwasa
56 EMS Wheel and Tire	Solvent degreasant	Do 3 analyses to verify if hazardous or nonhazardous	Coliwasa
56 EMS Wheel and Tire	Hot tank solution	Initially to set up baseline Annually	Coliwasa
56 EMS NDI	Penetrant Emulsifier Remover	Do 3 analyses to verify if hazardous or nonhazardous	Coliwasa
JCSE	Paint Filters	Do 3 analyses to verify if hazardous or nonhazardous	
56 EMS Corrosion Control	Paint Filters	Do 3 analyses to verify if hazardous or nonhazardous	
56 CSG Auto Hobby	PD-680 Tank	Every 3rd Change Out	Coliwasa

REFERENCES

1. Hazardous Materials Technical Center, "Hazardous Waste Management Plan, MacDill AFB," August 1987.

2. Samplers and Sampling Procedures for Hazardous Waste Streams, EPA-600/2-80-018, Jan 1980.

3. United States Environmental Protection Agency, "Identification and Listing of Hazardous Waste," 40 CFR 261.

APPENDIX A

REQUEST LETTER

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DEPARTMENT OF THE AIR FORCE
HEADQUARTERS TACTICAL AIR COMMAND
LANGLEY AIR FORCE BASE VA 23665-5001

JAN 2 6 1988

REPLY TO ATTN OF: SGPB

SUBJECT: Request for Hazardous Waste Survey by Occupational and Environmental Health Laboratory Consultants

TO: USAF OEHL/CC

The attached request from MacDill AFB, FL, for a Hazardous Waste Survey is forwarded IAW AFR 161-17. This headquarters supports the request. Your assistance will be greatly appreciated.

Jerry P. Dougherty

JERRY P. DOUGHERTY, Colonel, USAF, BSC
Chief, Bioenvironmental Engineering Services
Office of the Command Surgeon

1 Atch
56 Med Gp/SGPB
Ltr, 13 Jan 88

UNITED STATES AIR FORCE
SEPTEMBER 18, 1947

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APPENDIX B

CHEMICAL DISPOSAL SURVEY FORM

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PLEASE HAVE THIS FORM READY FOR PICKUP BY:

SHOP: BLDG:

CONTACT: AUTOVON:

Please fill out this form as accurately and completely as possible. If you have any questions on filling it out, please call Lt Hedgecock at X5596

Examples:

	Tank Capacity	Change Out Frequency	Method of Disposal
PD-680 used in tank	60 gal	4/year	55-gal drum

Comments: 1/2 gal of MEK per month is used as a wipe on/wipe off process for parts cleaning. None is disposed of.

OILS & FLUIDS

	Amt of Waste	Disposal Method
Brake Fluid	6 gal	placed in
Transmission Fluid	10 gal	same 600-gal
Hydraulic Fluid	3 gal	bowser
Motor Oil	50 gal	500-gal UGT
Synthetic Oil	8 gal	55-gal drum

QUESTIONS: If question does not apply to this shop put "N/A" beside it.

1. Does this shop have any underground storage tanks?_ _____

   If yes: How many?_____

   Capacity?_____

   What is stored in the tank?_____

_____

   How often is it cleaned out?_____

   Has it ever been leak-tested?_____

2. Do the floor drains of the shop lead to an oil/water separator?_____

   If yes: How often is it cleaned out?_____

3. Does the shop have any Safety Kleen units?_____

   If yes: How many?_____

   Tank capacity?_____

   How often are they serviced?_____

4. What does the shop do with dirty rags?_____

   _____

5. What does the shop do with used "Speedy Dry"?_____

   _____

6. Describe shop activities and responsibilities below:

PAINT WASTE AND THINNERS

PAINTS	Amount of Waste generated/month	Disposal Method
Latex		
Polyurathane		
Enamel		
Other		
Comments		

THINNERS (list below)

STRIPPERS

Name of Stripper	National Stock #	Amount of Waste per Month	OR Tank Size	Change Out Freq

Comments

ACIDS

Name of Acid	Manufacturer	Amount of Waste generated/month	Method of Disposal

---

Comments

BATTERIES

Type of Battery	#/Month	Neutralized in Shop or Turned in Wet

Comments:

SOAPS/CLEANERS

Name of Soap	Dilution Ratio	National Stock#	Amt Used / month	Disposal Method

---

Comments

OILS AND FLUIDS

	Amt. of Waste Generated/month	Disposal Method
Brake Fluid		
Transmission Fluid		
Hydraulic Fluid		
Motor Oil		
Synthetic Oil		
Other		
Comments		

SOLVENTS/DEGREASANTS

Name of Chemical	Amt. of Waste generated/mo.	OR Tank Size	Change Out Freq	Disposal Method
Carbon Remover				
PD-680 used in tank				
Pd-680 used on washrack				
Other:				
Comments				

PHOTO CHEMICALS

Name of Chemical	Manufacturer	Amt/mo	OR Tank Size	Change Out freq	Disposal Method

Is the fixer processed through a silver recovery unit before disposal?_____

NDI Chemicals

Name of Chemical	Manufacturer	National Stock #	Tank Size	Change Out Freq	Disposal Method
Emulsifier					
Dye Penetrant					
Developer					
Comments					

FUELS

Name of Fuel	Amount/Month	Disposal Method

ANTIFREEZE

	Amount/Month	Disposal Method

OTHER CHEMICALS (Please list any chemicals that contain phenols)

Name of Chemical	Manufacturer	National Stock #	Tank Size	Change Out Freq	Disposal Method

Signature of person filling out this form_____

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APPENDIX C

ACCUMULATION SITE SURVEY FORM

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HAZARDOUS WASTE ACCUMULATION SITE INSPECTION FORM

LOCATION: _____ DATE: _____

ACCUMULATION SITE MANAGER: _____ PHONE: _____

ITEM	CONDITIONS	STATUS YES	STATUS NO	COMMENTS
STORAGE SITE	Secure			
	Gates Locked			
	Warning Signs			
	No smoking			
	Impermeable Floor			
	Diked/Burmed			
	Valve in Burm to drain water			
SPILL EQUIPMENT	Empty Overpack Container			
	Materials and Supplies			
FIRE PROTECTION	Extinguisher			
STORAGE CONTAINERS	Funnels in Containers			
	Containers Closed			
	Deteriorating			
	Leaking			
	Spills			

Overall Rating of Accumultion Site: _____

LISTING OF WASTES AT ACCUMULTION SITE

EPA WASTE NUMBER	NUMBER OF CONTAINERS	TYPE OF WASTE	ACCUMULATION START DATE	COMMENTS

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APPENDIX D

SUMMARY OF WASTE DISPOSAL PRACTICES FOR EACH WASTE CATEGORY

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SUMMARY OF WASTE DISPOSAL PRACTICES FOR EACH WASTE CATEGORY

Paints and Thinners

SHOP	BLDG	PRODUCT	QTY(GALLONS/YR	DISPOSAL
56 TRANS Allied Trades	500	Paints and Thinners	136	D
56 CSG Auto Hobby	305	Paints	48	UIP
56 EMS Corrosion Control	1065	Paints and Thinners	3675	D
56 EMS Propulsion		Paints and Thinners	105	D
56 CES Paint Shop	32	Paints and Thinners	275	D
JCSE Allied Trades	862	Paints and Thinners	840	D
37 AEG	701	Paints	72	T
71 TCF		Paints	440	D
56 CSS Paint Shop	71	Paints and Thinners	26	D
56 CSS Range Maintenance	71	Paints	40	D
		TOTAL:	5657	

Strippers

SHOP	BLDG	PRODUCT	QTY(GALLONS/YR	DISPOSAL
56 EMS Wheel and Tire	H-4	Paint Stripper	400	D
JCSE Allied Trades	862	Paint Remover	60	D
		TOTAL:	460	

Acids

SHOP	BLDG	PRODUCT	QTY(GALLONS/YR	DISPOSAL
56 EMS Phase Dock	H-1	Battery Acid	480	NDD
JCSE Generator/Battery	862	Battery Acid	480	NDD
Florida ANG	1885	Battery Acid	20	OWS
		TOTAL:	980	

Soaps

SHOP	BLDG	PRODUCT	QTY(GALLONS/YR	DISPOSAL
56 TRANS Fire Truck Maint	8	Mean Green Soap	10	OWS
56 CSG Auto Hobby	305	Aircraft Soap	1000	OWS
56 CSG Auto Hobby	305	Quality Super Soap	180	OWS
JCSE Allied Trades	862	Aircraft Surface Soap	240	DD
37 AEG	701	Alkaline Soap	6	DD
56 CSS Vehicle Maint	71	Automotive Soap	180	DD
		TOTAL:	1616	

Oils

SHOP	BLDG	PRODUCT	QTY(GALLONS/YR	DISPOSAL
56 TRANS Vehicle Maint	500	Motor	2040	D
56 TRANS Minor Maint	527	Motor	30	D
56 TRANS Fire Truck Maint	8	Motor	180	D
56 TRANS Refueling Maint	1061	Motor	480	D
56 TRANS Harvest Eagle	1050	Motor	300	D
56 CSG Auto Hobby	305	Motor	2400	D
56 CRS Test Cell	1144	Motor	72	OWS
56 EMS NDI	14	Engine	60	D
56 Red, Black, Blue CMU	843	Engine	50	D
56 EMS Wheel and Tire	H-4	Motor	20	D
56 EMS Phase Dock	H-1	Engine	350	B
56 EMS Propulsion		7808	1200	D
56 AGS Aircraft Maint Y	187	Engine	6	D
56 CES Fuels Lab	1064	Engine	110	D
56 CES Power Production	1050	Lube	400	B
56 CES Paint Shop	32	Engine	600	D
56 CES Refrigeration	29	Synthetic	5	D
JCSE Allied Trades	862	Synthetic and Engine	1212	B
AFLC Fuels Lab	1101	Engine	36	D
Energy Management Lab	1121	Engine	900	D
Florida ANG	1885	Engine	600	OWS
37th AEG	701	Motor	72	D
71st TCF		Motor	1000	B
56 CSS Vehicle Maint	71	Motor	1500	PIT
56 CSS Power Production	71	Motor	800	PIT
56 CSS Range Maint	71	Motor	71	D
Army National Guard		Motor	36	D
		TOTAL:	14,530	

Fluids

SHOP	BLDG	PRODUCT	QTY(GALLONS/YR	DISPOSAL
56 TRANS Fire Truck Maint	8	Transmission and Hydraulic	24	D
56 CSG Auto Hobby	305	Transmission	48	D
56 CRS Pneudraulics	H-2	Hydraulic	264	D
56 EMS Phase Dock	H-1	Hydraulic and Transmission	250	B
56 EMS Propulsion		Hydraulic	48	D
56 AGS Aircraft Maint Y	187	Hydraulic	110	D
56 AGS Aircraft Maint B	183	Hydraulic	55	D
JCSE Allied Trades	862	Transmission and Hydraulic	72	B
56 CSS Vehical Maint	71	Transmission	120	D
		TOTAL:	991	

Fuels

SHOP	BLDG	PRODUCT	QTY(GALLONS/YR	DISPOSAL
56 TRANS Vehicle Maint	500	Automotive	240	D
56 EMS Phase Dock	H-1	JP-4	12000	D
56 AGS Aircraft Maint Y	187	JP-4	110	D
56 AGS Aircraft Maint B	183	JP-4	220	D
56 CES Fuels Lab	1064	JP-4, Diesel, Mogas	950	B
56 CES Power Production	1050	Diesel	600	B
Energy Management Lab	1121	Automotive	900	D
71 TCF		Automotive	220	D
		TOTAL:	15,240	

Antifreeze

SHOP	BLDG	PRODUCT	QTY(GALLONS/YR	DISPOSAL
56 TRANS Vehicle Maint	500	Antifreeze	660	OWS
56 TRANS Minor Maint	527	Antifreeze	24	OWS
56 TRANS Fire Truck Maint	8	Antifreeze	144	OWS
56 CSG Auto Hobby	305	Antifreeze	240	OWS
56 EMS Phase Dock	H-1	Antifreeze	60	OWS
71 TCF		Antifreeze	75	D
56 CSS Vehicle Maint	71	Antifreeze	165	D
56 CSS Power Production	71	Antifreeze	110	D
Army National Guard		Antifreeze	110	D
		TOTAL:	1588	

Solvents

SHOP	BLDG	PRODUCT	QTY(GALLONS/YR	DISPOSAL
56 TRANS Minor Maint	527	Cleaning Compound	24	OWS
56 EMS Corrosion Control	1065	MEK	15	UIP
56 EMS Wheel and Tire	H-4	Cleaning Solvent	220	OWS
56 EMS Wheel and Tire	H-4	MEK	15	UIP
56 EMS Phase Dock	H-1	Cleaning Compound	300	OWS
56 CES Fuels Lab	1064	Solvents	300	B
37th AEG	701	Solvent and Emulsion	15	DD
Army National Guard		Solvent	180	
		TOTAL:	1069	

PD-680

SHOP	BLDG	PRODUCT	QTY(GALLONS/YR	DISPOSAL
56 CSG Auto Hobby	305	PD-680	600	D
56 EMS Wheel and Tire	H-4	PD-680	360	D
56 CES Fuels Lab	1064	PD-680	30	D
		TOTAL:	990	

Photo Chemicals

SHOP	BLDG	PRODUCT	QTY(GALLONS/YR	DISPOSAL
56 CSG Photo Lab	25	Fixer	unknown	DD
56 EMS NDI	14	Dye Penetrant	55	DD
56 EMS NDI	14	Mag Particle	55	D
56 EMS NDI	14	Developer	40	DD
56 EMS NDI	14	Fixer	10	SRDD
		TOTAL:	160	

Safety Kleen

SHOP	BLDG	PRODUCT	QTY(GALLONS/YR	DISPOSAL
56 TRANS Allied Trades	500	Safety Kleen	360	SBC
JCSE Allied Trades	862	Safety Kleen	165	SBC
Florida ANG	1885	Safety Kleen	30	SBC
56 TRANS Fire Truck Maint	8	Safety Kleen	120	SBC
56 TRANS Refueling Maint	1061	Safety Kleen	480	SBC
56 CSG Auto Hobby	305	Safety Kleen	240	SBC
56 CRS Pneudraulics	H-2	Safety Kleen	448	SBC
56 EMS Phase Dock	H-1	Safety Kleen	360	SBC
JCSE Generator/Batt	862	Safety Kleen	165	SBC
37 AEG	701	Safety Kleen	55	SBC
56 CSS Vehical Maint	71	Safety Kleen	240	SBC
		TOTAL:	2663	

APPENDIX E

SUMMARY OF WASTE DISPOSAL AS HAZARDOUS WASTE

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SUMMARY OF WASTE DISPOSAL AS HAZARDOUS WASTE

SHOP	BLDG	PRODUCT	QTY(GALLONS/YR	DISPOSAL
56 TRANS Allied Trades	500	Paints and Thinners	136	D
56 EMS Corrosion Control	1065	Paints and Thinners	3675	D
56 EMS Propulsion		Paints and Thinners	105	D
56 CES Paint Shop	32	Paints and Thinners	275	D
JCSE Allied Trades	862	Paints and Thinners	840	D
		Paint Remover	60	D
		Synthetic and Engine	1212	B
		Oil Transmission and Hydraulic Fluid	72	B
71 TCF		Paints	440	D
		Motor Oil	1000	B
		Automotive	220	D
56 CSS Paint Shop	71	Paints and Thinners	26	D
56 CSS Range Maintenance	71	Paints	40	D
		Motor Oil	71	D
56 EMS Wheel and Tire	H-4	Paint Stripper	400	D
		Motor Oil	20	D
		PD-680	360	D
56 TRANS Vehicle Maint	500	Motor Oil	2040	D
		Automotive Fuel	240	D
56 TRANS Minor Maint	527	Motor Oil	30	D
56 TRANS Fire Truck Maint	8	Motor Oil	180	D
		Transmission and Hydraulic Fluid	24	D
56 TRANS Refueling Maint	1061	Motor Oil	480	D
56 TRANS Harvest Eagle	1050	Motor Oil	300	D
56 CSG Auto Hobby	305	Motor Oil	2400	D
		Transmission Fluid	48	D
		PD-680	600	D
56 EMS NDI	14	Engine Oil	60	D
		Mag Particle	55	D
56 Red, Black, Blue CMU	843	Engine Oil	50	D

SUMMARY OF WASTE DISPOSAL AS HAZARDOUS WASTE (Cont'd)

SHOP	BLDG	PRODUCT	QTY(GALLONS/YR	DISPOSAL
56 EMS Phase Dock	H-1	Engine Oil	350	B
		Hydraulic and Transmission Fluid	250	B
		JP-4	12000	D
56 EMS Propulsion		7808 Synthetic Oil	1200	D
		Hydraulic Fluid	48	D
56 AGS Aircraft Maint Y	187	Engine Oil	6	D
		Hydraulic Fluid	110	D
		JP-4	110	D
56 AGS Aircraft Maint B	183	Hydraulic Fluid	55	D
		JP-4	220	D
56 CES Fuels Lab	1064	Engine Oil	110	D
		JP-4, Mogas, Diesel	950	B
		Solvents	300	B
		PD-680	30	D
56 CES Power Production	1050	Lube Oil	400	B
		Diesel	600	B
56 CES Paint Shop	32	Engine Oil	600	D
56 CES Refrigeration	29	Synthetic Oil	5	D
AFLC Fuels Lab	1101	Engine Oil	36	D
Energy Management Lab	1121	Engine Oil	900	D
		Automotive Fuel	900	D
37 AEG	701	Motor Oil	72	D
56 CSS Vehicle Maint	71	Motor Oil	1500	PIT
		Transmission Oil	120	D
56 Power Production	71	Motor Oil	800	PIT
Army National Guard		Motor Oil	36	D
56 CRS Pneudraulics	H-2	Hydraulic Fluid	264	D
		TOTAL:	37,431	

APPENDIX F

MASTER LIST OF SHOPS

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MASTER LIST OF SHOPS

	SHOP	CONTACT	BUILDING	EXTENSION
1.	56 TRANS Allied Trades	Sgt Ferrang	500	2435
2.	56 TRANS Vehicle Maintenance	SSgt Wollenberg	500	2439
3.	56 TRANS Minor Maintenance	SSgt Quickbear	527	4647
4.	56 TRANS Firetruck Maintenance	SSgt Hopkins	8	2379
5.	56 TRANS Refueling Maintenance	Donald Kinter	1061	3370
6.	56 TRANS Harvest Eagle Refueling	Donald Kinter	1050	3370
7.	56 CSG Auto Hobby	Ray Dempsey	305	4553
8.	56 CSG Photo	TSgt Ellis	25	2351
9.	56 CRS Pneudraulics	Sgt Vedder	H-2	4610
10.	56 CRS Jet Engine Test Cell	SSgt Fullerton	1144	3398
11.	56 CRS Fuel Cell Repair	SSgt McCollum	1071	2806
12.	56 EMS NDI	MSgt Davis	14	4313
13.	56 EMS Corrosion Control	MSgt McDowell	1065	4166
14.	56 EMS Red, Black and Blue CMU	SSgt Piazza	843	5417
15.	56 EMS Wheel and Tire	TSgt Sapawosky	H-4	4668
16.	56 EMS Phase	TSgt Wilson	H-1	2970
17.	56 EMS AGE	SSgt Hartman	552	4025
18.	56 EMS Propulsion	MSgt Hohman		4500
19.	56 AGS Aircraft Maintenance Yellow	TSgt Sillavan	187	2368
20.	56 AGS Aircraft Maintenance Blue	TSgt Sillavan	183	3081
21.	56 CES Fuels Lab	SSgt Scanlon	1064	3462
22.	56 CES Power Production	John Collier	1050	4711
23.	56 CES Paint Shop	Mr Turchetta	32	2387
24.	56 CES Entomology	Mr Bradford	864	2991
25.	56 CES Exterior Electric	SSgt Gomes	29	29
26.	56 CES Refrigeration	SSgt George	29	5109
27.	JCSE Generator/Battery	SSgt Wood	862	2819
28.	JCSE Allied Trades	SSgt Wood	862	862
29.	AFLC Fuels Lab	Mr Sisco	1101	4045
30.	Energy Management Lab	Ms Korty	1121	
31.	Florida Air National	TSgt Sanchez	1885	4146
32.	56 CSS Vehicle Maintenance	Mr Kopp	71	86-132

MASTER LIST OF SHOPS (Cont'd)

	SHOP	CONTACT	BUILDING	EXTENSION
33.	56 CSS Paint Shop	Mr. Spurlock	71	86-132
34.	56 CSS Power Production	TSgt Monnet	71	86-132
35.	56 CSS Range Maintenance	TSgt McClellan	71	86-132
36.	56 CSS Entomology	Jim Moore	25	86-
37.	Army National Guard	CWO2 Smith		
38.	71 TAC	Sgt Wichert		
39.	AEG	MSgt Allen	701	2802

APPENDIX G

SUMMARY OF WASTE DISPOSAL PRACTICES BY SHOP

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WASTE DISPOSAL PRACTICES BY SHOP FOR MACDILL AFB

56 TRANS Allied Trades, Building 500

WASTE PRODUCT	QTY (GALLONS/YR	DISPOSAL
Paint and Thinners	136	D
Safety Kleen	360	SBC
TOTAL:	496	

56 TRANS Vehicle Maintenance, Building 500

WASTE PRODUCT	QTY (GALLONS/YR	DISPOSAL
Oil	2040	D
Fuel	240	D
Antifreeze	660	OWS
TOTAL:	2940	

56 TRANS Minor Maintenance, Building 527

WASTE PRODUCT	QTY (GALLONS/YR	DISPOSAL
Motor oil	30	D
Antifreeze	24	OWS
Safety Kleen	350	SBC
Cleaning Compound	24	OWS
TOTAL:	438	

56 TRANS Fire Truck Maintenance, Building 8

WASTE PRODUCT	QTY (GALLONS/YR	DISPOSAL
Mean Green Hand Soap	10	OWS
Transmission Fluid	12	D
Hydraulic Fluid	12	D
Motor Oil	180	D
Antifreeze	144	OWS
Safety Kleen	120	SBC
TOTAL:	478	

56 TRANS Refueling Maintenance, Building 1061

WASTE PRODUCT	QTY (GALLONS/YR	DISPOSAL
Oil	480	D
Safety Kleen	480	SBC
TOTAL:	960	

56 TRANS Harvest Eagle Refueling, Building 1050

WASTE PRODUCT	QTY (GALLONS/YR	DISPOSAL
Oil	300	D
TOTAL:	300	

56 CSG Auto Hobby Shop, Building 305

WASTE PRODUCT	QTY (GALLONS/YR	DISPOSAL
Safety Kleen	240	SBC
PD-680	600	D
Aircraft Soap	1000	OWS
Antifreeze	240	OWS
Enamel paint	24	UIP
Lacquer	24	UIP
Quality Super Soap	180	OWS
Transmission Fluid	48	D
Motor Oil	2400	D
TOTAL:	4756	

56 CSG Photo Laboratory, Building 25

WASTE PRODUCT	QTY (GALLONS/YR	DISPOSAL
Fixer	unknown	DD

56 CRS Pneudraulics, Building H-2

WASTE PRODUCT	QTY (GALLONS/YR	DISPOSAL
Safety Kleen	448	SBC
Hydraulic Fluid	264	D
MEK	10	UIP
TOTAL:	722	

56 CRS Jet Engine Test Cell, Building 1144

WASTE PRODUCT	QTY (GALLONS/YR	DISPOSAL
Motor Oil	72	OWS
Industrial Detergent	unknown	OWS
TOTAL:	72	

56 EMS NDI, Building 14

WASTE PRODUCT	QTY (GALLONS/YR	DISPOSAL
Jet Engine Oil	60	D
TCE	15	D
Dye Penetrant Oil	55	DD
Mag Particle sludge	55	D
Developer	40	DD
Fixer	10	SRDD
TOTAL:	235	

56 EMS Corrosion Control, Building 1065

WASTE PRODUCT	QTY (GALLONS/YR	DISPOSAL
Polyurethane thinners	660	D
Polyurethane paints	3000	D
MEK	15	UIP
Epoxy paint	15	D
TOTAL:	3690	

56 Red, Black and Blue CMU, Building 843

WASTE PRODUCT	QTY (GALLONS/YR	DISPOSAL
Oil	50	D
TOTAL:	50	

56 EMS Wheel and Tire, Building H-4

WASTE PRODUCT	QTY (GALLONS/YR	DISPOSAL
Cleaning solvent	220	OWS
Oil	20	D
Paint stripper	400	D
PD-680	360	D
MEK	15	UIP
TOTAL:	1015	

56 EMS Phase Dock, Building H-1

WASTE PRODUCT	QTY (GALLONS/YR	DISPOSAL
Oils	350	B
Fluids	250	B
Safety Kleen	360	SBC
Cleaning Compound	300	OWS
Sulfuric Acid	480	NDD
JP-4	12000	D
Antifreeze	60	OWS
TOTAL:	13800	

56 EMS Propulsion, Building

WASTE PRODUCT	QTY (GALLONS/YR	DISPOSAL
Polyurethane paint	15	D
Enamel paint	15	D
Latex paint	15	D
Thinners	60	D
Hydraulic fluid	48	D
7808 engine oil	1200	D
TOTAL:	1353	

56 AGS Aircraft Maintenance Yellow, Building 187

WASTE PRODUCT	QTY (GALLONS/YR	DISPOSAL
Engine oil	6	D
JP-4	110	D
Hydraulic fluid	110	D
TOTAL:	226	

56 AGS Aircraft Maintenance Blue, Building 183

JP-4	220	D
Hudraulic fluid	55	D
TOTAL:	275	

56 CES Fuels Laboratory, Building 1064

WASTE PRODUCT	QTY (GALLONS/YR	DISPOSAL
Engine oil	110	D
PD-680	30	D
JP-4	400	B
Diesel	400	B
Mogas	150	B
Solvents	300	B
TOTAL:	1390	

56 CES Power Production, Building 1050

WASTE PRODUCT	QTY (GALLONS/YR	DISPOSAL
Lube oil	400	B
diesel	600	B
sulfuric acid	120	B
TOTAL:	1120	

56 CES Paint Shop, Building 32

WASTE PRODUCT	QTY (GALLONS/YR	DISPOSAL
Engine oil	600	D
Paint thinners	165	D
Latex paint	110	D
TOTAL:	875	

56 CES Entomology, Building 864

WASTE PRODUCT	QTY (GALLONS/YR	DISPOSAL
Pesticide	1000	D
TOTAL:	1000	

56 CES Exterior Electric Shop, Building 29

WASTE PRODUCT	QTY (GALLONS/YR	DISPOSAL
PCB	unk	D

56 CES Refrigeration Shop, Building 29

WASTE PRODUCT	QTY (GALLONS/YR	DISPOSAL
Freon contaminated oil	5	
TOTAL:	5	

JCSE Generator/Battery Shop, Building 862

WASTE PRODUCT	QTY (GALLONS/YR	DISPOSAL
Safety Kleen	165	SBC
Sulfuric Acid	480	NDD
TOTAL:	645	

JCSE Allied Trades, Building 862

WASTE PRODUCT	QTY (GALLONS/YR	DISPOSAL
Latex paint	120	D
Polyurethane paint	300	D
Enamel paint	120	D
Thinners	300	D
Paint remover	60	D
Engine oil	1200	B
Synthetic oil	12	B
Fluids	72	B
PD-680	165	SBC
Aircraft surface soap	240	DD
TOTAL:	2589	

AFLC Fuels Laboratory, Building 1101

WASTE PRODUCT	QTY (GALLONS/YR	DISPOSAL
Oils	36	D
Fluids	36	D
TOTAL:	72	

Energy Management Laboratory, Building 1121

WASTE PRODUCT	QTY (GALLONS/YR	DISPOSAL
Oils	900	D
Fuels	900	D
TOTAL:	1800	

Florida Air National Guard, Building 1885

WASTE PRODUCT	QTY (GALLONS/YR	DISPOSAL
PD-680	30	SBC
Engine oil	600	OWS
Sulfuric Acid	20	OWS
TOTAL:	650	

37 AEG, Building 701

WASTE PRODUCT	QTY (GALLONS/YR	DISPOSAL
Safety Kleen	55	SBC
Enamel paint	72	T
Electolyte Acid	8	PIT
Alkaline Soap	6	DD
Solvent Emulsion	3	DD
Motor oil	72	D
Solvent	12	DD
TOTAL:	228	

71 TAC, Building 70

WASTE PRODUCT	QTY (GALLONS/YR	DISPOSAL
Contaminated soil	110	D
Oil	1000	B
Paint	440	D
Fuel	220	D
Antifreeze	75	D
TOTAL:	1845	

56 CSS Vehicle Maintenance, Building 71

WASTE PRODUCT	QTY (GALLONS/YR	DISPOSAL
Motor oil	1500	PIT
Safety Kleen	240	SBC
Antifreeze	165	D
Transmission fluid	120	D
Automotive soap	180	DD
TOTAL:	2205	

56 CSS Paint Shop, Building 71

WASTE PRODUCT	QTY (GALLONS/YR	DISPOSAL
Latex paint	6	D
Polyurethane paint	2	D
Enamel paint	6	D
Mineral spirits	30	D
Lacquer thinner	12	D
TOTAL:	56	

56 CSS Power Production, Building 71

WASTE PRODUCT	QTY (GALLONS/YR	DISPOSAL
Oils	800	PIT
Antifreeze	110	D
Safety Kleen	80	SBC
TOTAL:	990	

56 CSS Range Maintenance, Building 71

WASTE PRODUCT	QTY (GALLONS/YR	DISPOSAL
Oil	120	D
Latex paints	4	D
TOTAL:	160	

56 CSS Entomology, Building 25

WASTE PRODUCT	QTY (GALLONS/YR	DISPOSAL
No wastes		

Army National Guard

WASTE PRODUCT	QTY (GALLONS/YR	DISPOSAL
Oil	36	D
Lubricants	110	D
Antifreeze	110	D
Biodegradable soap	unk	G
Solvent	180	SBC
TOTAL:	436	

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